

Amendment and Response

Applicant: Jerome D. Brown et al.

Serial No.: 10/672,166

Filed: September 26, 2003

Docket No.: 10387US01 (I201.180.101)

Title: TAPE REEL ASSEMBLY WITH RADIALLY SYMMETRIC DEFORMING TAPE WINDING SURFACE**IN THE CLAIMS**

Please add claims 19 and 20.

Please amend claims 1, 5-7, 12, 14, and 18 as follows:

1. (Currently Amended) A tape reel assembly for a data storage tape cartridge, the cartridge configured to couple to a tape drive, the tape reel assembly comprising:

a hub including:

a cylindrical core defining a drive side and a top side;

an annular arm co-axially disposed exterior to and separated from the cylindrical core, the annular arm defining opposing ends and a tape winding surface bisected by a center line into a top half opposite the drive side and a bottom half adjacent the drive side; and

a web extending from the top side of the core ~~having a web center and~~ connecting to the top half of the annular arm at a point in the top half, and further wherein the web is not contiguous with the ends of the annular arm.

2. (Original) The tape reel assembly of claim 1, wherein the hub is configured such that upon loading, the tape winding surface exhibits approximately symmetrical radial deformation.

3. (Original) The tape reel assembly of claim 2, wherein the hub is configured to exhibit a variation in radial deformation between the top and bottom halves of not more than 0.0002 inch per 100 psi of applied radial load.

4. (Original) The tape reel assembly of claim 3, wherein the hub is configured to exhibit a variation in radial deformation between the top and bottom halves of not more than 0.0001 inch per 100 psi of applied radial load.

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5. (Currently Amended) The tape reel assembly of claim 1, wherein the web defines a web center, the web center connects-connecting to the annular arm at a point from the center line not greater than one-half an axial length of the top half.

6. (Currently Amended) The tape reel assembly of claim 1, wherein the web defines a web center, the web center connects-connecting to the annular arm at a point from the center line not greater than one-fourth an axial length of the top half.

7. (Currently Amended) The tape reel assembly of claim 1, wherein the web defines a web center, the web center connects-connecting to the annular arm at a point approximately 0.05 inch from the center line.

8. (Original) The tape reel assembly of claim 1, further comprising an upper flange and a lower flange, the upper and lower flanges extending in a radial fashion from opposing sides of the hub, respectively.

9. (Original) The tape reel assembly of claim 8, wherein tape reel assembly is configured such that the upper and lower flanges exhibit symmetrical deformation upon application of a radial load to the tape winding surface.

10. (Original) The tape reel assembly of claim 8, wherein at least one of the upper flange and the lower flange is formed as part of the annular arm.

11. (Original) The tape reel assembly of claim 8, wherein at least one of the upper flange and the lower flange is laser welded to the arm.

12. (Currently Amended) A data storage tape cartridge comprising:
a housing defining an enclosed region;

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at least one tape reel assembly rotatably disposed within the enclosed region and

including a hub having:

a cylindrical core defining a drive side and a top side;

an annular arm co-axially disposed exterior to and separated from the cylindrical core, the annular arm defining a tape winding surface terminating at opposing ends of the annular arm and bisected by a center line into a top half opposite the drive side and a bottom half adjacent the drive side;a web extending from the top side of the core having a web center and connecting to the top half of the annular arm at a point in the top half, wherein the web is not contiguous with either of the opposing ends; and

storage tape configured to wind about the tape winding surface.

13. (Original) The tape reel assembly of claim 12, wherein the hub is configured such that upon loading, the tape winding surface exhibits approximately symmetrical radial deformation.

14. (Currently Amended) The data storage tape cartridge of claim 12, wherein the web defines a web center, the web center connects connecting to the annular arm at a point from the center line not greater than one-fourth an axial length of the top half.

15. (Original) The data storage tape cartridge of claim 12, further comprising an upper flange and a lower flange, the upper and lower flanges extending in a radial fashion from opposing sides of the hub, respectively.

16. (Original) The data storage tape cartridge of claim 15, wherein the upper and lower flanges exhibit symmetrical deformation.

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17. (Original) The data storage tape cartridge of claim 15, wherein at least one of the upper flange and the lower flange is formed as part of the annular arm.

18. (Currently Amended) A method of winding data storage tape onto a tape reel assembly comprising:

providing a data storage tape cartridge having a housing enclosing the tape reel assembly, wherein the tape reel assembly includes a hub having:

a cylindrical core defining a drive side and a top side;

an annular arm co-axially disposed exterior to and separated from the cylindrical core, the annular arm defining a tape winding surface bisected by a center line into a top half terminating at a top end opposite the drive side and a bottom half adjacent the drive side; and

a web extending from the top side of the core having a web center and connecting to the top half of the annular arm, at a point wherein the web is characterized as being not contiguous with the top end of the annular arm in the top half,

contacting the tape winding surface with a storage tape; and

rotating the tape reel assembly such that the storage tape wraps about the hub and applies a stress of at least 400 pounds per square inch to the tape winding surface; and configuring wherein the tape winding surface to exhibits approximately symmetrical radial deformation in response to the applied stress.

19. (New) The tape reel assembly of claim 1, wherein the web defines a web top and a web bottom, and further wherein the web top is aligned with the top side of the core.

20. (New) The tape reel assembly of claim 1, wherein an entirety of the web is spaced apart from the opposing ends of the annular arm.